



Commandant's NOTE

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MECHANIZED INFANTRY—A BLUEPRINT FOR MODERNIZATION

Operation DESERT STORM validated much of our mechanized infantry doctrine, training, and equipment, but it also revealed the need for further research and refinement. The ultimate lesson is that today's state-of-the-art equipment can quickly become obsolete. Not long ago, our night vision capability was limited to the range of our infrared light sources, but we have seen in the past decade the beginnings of a proliferation of thermal technology that will make us the virtual owners of the night. Our thermal target acquisition systems have already limited the cloak of darkness our adversaries relied upon—a lesson that Iraqi tank and fighting vehicle crews learned at great cost.

As the proponent for mechanized infantry, I want to bring you up to date on the initiatives and programs we are developing to maintain the preeminence that our infantry currently enjoys.

The Bradley fighting vehicle (BFV) upgrade, the future infantry fighting vehicle (FIFV), the soldier enhancement program, the soldier modernization program, and the small arms master plan will all improve the ways in which our infantrymen travel into battle, engage the enemy, and survive in hostile environments. Improvements to the fire control system, rounds, and fuzes of the mechanized infantry's mortars, and the future introduction of a multipurpose individual munition will ensure far greater versatility, accuracy, and lethality.

Future improvements to our command and control systems—some of them to be fielded within two years—will ensure positive command and control that will greatly assist in decreasing the likelihood of fratricide. Although we dominated the night during DESERT STORM, we are working to further improve our target acquisition, marksmanship, and ability to discriminate between friend and foe.

These are general areas of interest; now let me discuss some specifics:

The system improvement plan (SIP) for the BFV draws upon deficiencies identified in DESERT STORM and envisions the completion of an M2/M3A2+ upgrade by FY 1995. This upgrade will include a laser range finder, the global positioning system (GPS) with compass, a driver's thermal viewer, a combat identification system, improved equipment storage, and a missile countermeasure device. A change to bench-type seats will accommodate a larger dismount rifle squad, and yet allow for storage of AT-4s and Javelins. Further improvements—envisioned as the M2/M3A3 for

FY 1998—include an improved target acquisition and fire control system, reduced vehicle signature, an intervehicular information system, a vehicle integrated defense system, a state-of-the-art GPS, a multi-salvo grenade launcher, and an integrated vehicle smoke system. Other capability enhancements are being examined for this major modernization of the Bradley. These improvements are necessary to enable the BFV to fight compatibly with the M1 tank well into the next century, and until the future infantry fighting vehicle (FIFV) is fielded.

The FIFV represents the next generation of infantry fighting vehicles, with its enhanced protection against antipersonnel and antitank mines, improved munitions, and the expected main gun on future BMPs. Its lethality will be increased with a rapid fire gun, an area suppression capability, and a state-of-the-art antitank guided missile system. A new, full-solution fire control system will permit target acquisition and engagement at ranges well beyond those possible today. The FIFV is expected to be operated by a two-man crew, carry a nine-man squad, and have mobility equal to that of our future main battle tank.

The soldier enhancement program and related initiatives focus on correcting deficiencies identified through field experience, including DESERT STORM, and advances in threat technology. Fielded products of this program have included the combat soldier sleep system, a ballistic laser eye protection system, an individual load bearing vest, and intermediate cold/wet boots and gloves. The soldier modernization plan, developed at the Infantry School, addresses issues of command and control, mobility, sustainment, and survivability. The new lightweight overgarment—the first step of a progression—will provide greater protection than the present suit, in both chemical and biological environments. This progression in improvements will ultimately lead to the enhanced integrated soldier system, which will also include both a computer to enhance fire control and navigation, and an integrated helmet with a heads-up display. While initial development focuses on the dismounted soldier, the system will eventually be tied in with the future communications of the Bradley vehicle system.

Considerable effort has also gone into the infantryman's weapons. The small arms master plan capitalizes on state-of-the-art technology in weapons, sight systems, and ammunition. The M9 9mm pistol, the M249 squad automatic weapon, and the M24 sniper weapon system have already been fielded. Future plans to

improve the M249 (light), the M60 (medium), and the M2 (heavy) machineguns, along with the continued fielding of the MK-19 grenade machinegun are on the drawing board.

A new bunker defeating munition that can defeat earthen and timber fortifications will be fielded to complement the AT-4 light antiaarmor weapon. When fielded, the Javelin advanced antiaarmor weapon system (medium) will make our infantry the most lethal antitank force on the battlefield. We will increase the mobility, lethality, and survivability of the mechanized task force by replacing the Echo Company M901s with BFVs. This replacement will remain in effect until the line-of-sight antitank (LOSAT) weapon system is fielded. A non-line-of-sight—combined arms (NLOS-CA) system, to be fielded in or around FY 2003, will give commanders the ability to engage high-payoff targets at extended ranges and thus shape the battlefield.

In addition to the small arms and antitank initiatives, the infantry's mortars are undergoing their own improvements. We are improving the mortar, its ammunition and fuzes, and its fire control system. The 120mm battalion mortar system will replace the 4.2-inch mortar. The 120mm mortar can fire its rounds out to 7,200 meters at a sustained rate of four rounds per minute, and it has a maximum rate of 16 rounds per minute. A turreted mortar system, rocket-assisted projectiles—similar to those already in the artillery inventory—an infrared illumination round compatible with our night vision devices, and guided and precision munitions are all planned for the future. A new precision time fuze is also under development, and it is expected to greatly improve the mortar munition capabilities. When an improved M23 mortar ballistic computer and an enhanced mortar fire control system are added to these improvements, the mechanized task force commander will have at his fingertips a flexible, immediately responsive indirect fire system.

The 120mm mortar carrier itself (M1064) will be an upgraded version of the combat-proven M106A2. External fuel tanks will reduce the danger of on-board fires and increase internal stowage space, and an improved ammunition rack will allow 62 120mm mortar rounds to be carried on board. A larger RISE (reliability improvements of selected equipment) power engine will make this a safer, faster, more lethal weapon system that can keep up with the mechanized maneuver elements and provide rapid, accurate mortar support to the mechanized task force.

The ability of U.S. forces to dominate the night was graphically demonstrated in DESERT STORM, and we are working to ensure that we maintain that edge into the 21st Century. This year we will be conducting a test to examine the night fighting requirements of the infantry and other branches. The focus will be on materiel, tactics, training, and organization of the force, and will facilitate the synchronization of the entire combined arms team. The benefits will be many—some of the positive results expected are the reduction of fratricide, enhanced mobility, better target acquisition, greater lethality, and improved command and control.

In addition to developing programs to produce a better armed, more mobile, better protected infantryman with his own responsive indirect fire support, we are looking at the type of command and control systems we need to let him communicate with other combat units. We envision an improved AN/PRC-126 small unit radio which will let him communicate out to five kilometers. When

fielded, the radio will link our combat units with their combat support (CS) and combat service support (CSS) units. A lighter version of the precise-location global-positioning system receiver will let the squad and team leaders more accurately pinpoint their positions. Long-range surveillance units are already using a secure tactical AM radio with improved long-range capability.

The combat power of the infantry can be no better than its training. We are developing, and in some cases already fielding, training device technology that will keep our soldiers' proficiency at the same high level they achieve with their weapon systems in live fire. Precision gunnery training systems (PGTS) have been fielded for both the TOW gunnery trainer and the TOW field tactical trainer. Fielding has also begun on the Dragon-PGTS. Another program, the precision gunnery system (PGS) is being developed as a joint project of the Infantry School and the Armor School. PGS will offer an eyesafe, precision laser training capability for both tanks and Bradleys, and will allow combat vehicle crewmen to practice gunnery at actual ranges without live ammunition. The PGS system will be MILES-compatible, which will allow the vehicle crewmen to interact with the dismount element. This system can be used for force-on-force exercises at platoon level.

Simulations have reached the point where gunners can train with the effects of different light and weather conditions, obscuration, and simulated weapon effects. From bright sunlight to pitch black night, a gunner can engage an array of ground vehicles, and even attacking helicopters. MILES training has entered a new dimension; it is not only compatible with the TOW trainers but has also been expanded to include claymores, minefields, and even hand grenades. The infantryman's day and night marksmanship training is also under refinement. These are but some examples of what the future holds.

Other areas of concern to the mechanized force include engineer projects such as sturdy, easily constructed overhead cover and a combination ax/mattock for clearing and constructing fighting positions. We are also taking a hard look at MOUT doctrine and tactics, using experience gained in Grenada and Panama to validate our products. The MOUT facility at the JRTC will be the best we can offer, with detailed audio and visual feedback to units training there. We have not forgotten the soldier's load; even though mechanized forces may not have to contend with extended foot movements to contact, the combat load carried by the soldier still needs to be scrutinized and—where possible—lightened.

This has been a brief summary of the issues and initiatives the Infantry School is working to support both the mechanized force and the infantry as a whole. In this issue of INFANTRY, we present a number of articles that focus on mechanized infantry, discussing the operations, organization, training, and equipment of the mechanized forces of the United States and Germany. We do this to provide a perspective of where we and a major European ally stand in the development and readiness of our mechanized forces. Watch for related articles in future issues. You can help us by providing feedback on our articles or—better still—by submitting articles for publication. Your experience is valuable, and you ought to consider sharing it with the infantry community. The address of INFANTRY is inside the front cover. With your help we can continue to train, equip, and field the finest infantry in the world.

